APOIP-MB

APOIP-MB2

1.3 & 2 MEGA PIXEL BULLET IP CAMERAS

User’s Manual

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Welcome

Thank you for purchasing the **1.3 or 2 Mega Pixel Bullet IP Cameras**.

This user's manual is designed to be a reference tool for the installation and operation of your system.

Here you can find information about the corresponding IP camera's features and functions, as well as a detailed installation method.

Before installation and operation please read the following safeguards and warnings carefully!

Important Safeguards and Warnings

1．Electrical safety

- All installation and operation here should conform to your local electrical safety codes.
- The power supply shall conform to the requirement in the SELV (Safety Extra Low Voltage) and must make sure that the limited power source is rated 12V DC or 24V AC.

  Please note: Do not connect two power supplying sources to the device at the same time; it may result in device damage!

- We assume no liability or responsibility for all the fires or electrical shock caused by improper handling or installation.
- We are not liable for any problems caused by unauthorized modification or attempted repair.

2．Transportation Security

- Please ensure that the product does not endure heavy stresses, violent vibration or contact with water during transportation, storage and installation.
- Please use the original packing material (or the material of the same quality) if you need to return it to vendor.

3．Installation

- Do not apply power to the product before completing installation.
- Do not put object(s) on the product.
- Please install a proper power cut-off device during the installation connection.

4．Qualified engineers needed

All the examination and repair work should be done by the qualified service engineers. We are not liable for any problems caused by unauthorised modifications or attempted repair.

5. Environment

- This product should be installed in a cool, dry place away from direct sunlight, inflammable, explosive substances and etc.
- Please keep it away from environments that contain electromagnetic radiation or objects that produce it.
- Please keep sound ventilation around the device at all times.
- Do not allow the water and other liquid to penetrate into the device if casing has been compromised. This series product complies with the IP66 standard specified in the Degrees of Protection Provided by Enclosure.
- Ensure lightning surge protection is in place to make sure you fully protect camera circuitry from electrical overload.

- Please make sure the CCD (CMOS) component is away from the radiation of the laser beam device. Otherwise it may result in CCD (CMOS) optical component damage.
- It is recommended that the grounding studs of the product should be grounded, so to further enhance the reliability of the camera.

6. Daily Maintenance

- Please shut down the device and then unplug the power cable before you begin any maintenance work.
- Do not touch the CCD (CMOS) optic component. Please use an air jet to clean the dust off the lens surface. You can use the dry cloth with some alcohol or mild detergent to clear if necessary.
- When the camera is not in use please put the dustproof cap to protect the CCD (CMOS) component.
- Do not use volatile solvent such as the benzene, paint thinner or detergent with the ability to abrade surfaces. It may result in lens damage or adversely affect the device's performance.

7. Accessories

Always use all the accessories recommended by manufacturer.

Before installation, please open the package and check that all the components are included. Contact your local retailer/vendor ASAP if something is missing.

8. Box Contents:

Accessory Name	Amount
Network Camera Unit	1
User's Manual	1
Installation Accessories Bag	1
CD	1

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1 General Introduction

1.1 Overview

This network camera integrates traditional camera and network video technology. It adopts both audio and video data collection and transmission simultaneously. Because of inbuilt internal hardware it can connect to a network directly without any auxiliary device. When you want to access the camera, you can use a web browser running off the network at the client-end. Due to its multiple functions it allows for various use in many environments such office, bank, road & traffic monitoring, etc.

This series network camera product uses the latest industry standard H.264 video and G.711a audio compression technology, which guarantee the best audio and video quality whilst reducing file sizes.

One of the other main features this camera includes is the IR night vision, which aids in video surveillance when the camera is functioning within a low illumination environment. The LED IRs highlight objects of interest within the camera's field of view and is then able to filter out any visual interference so that you can easily view footage upon a monitor. It supports real-time monitor and listening at the same time via the inbuilt microphone. If you want to communicate with a person(s) in view of the camera it also supports dual-way bidirectional talk.

The built-in protection enclosure and waterproof design conforms to the IP 66 level. It has the sound waterproof function suitable for use in the outdoor environments.

1.2 Features

User Management	• Different user rights for each group, one user belongs to one group. • The user's right shall not exceed the group right.
Storage Function	Supports: • Central server backup function in accordance with your configuration and setup in alarm or schedule setting • Recording via the Web and sending the recorded file to the storage at the client-end's PC. • Network storage function such as FTP.
Network Monitor	• Network camera supports one-channel audio/video data transmission to network terminal and then decodes signal. Delay is within 270ms (network bandwidth support needed) • Supports a maximum of 20 connections. • Adopts the following audio and video transmission protocols: HTTP, TCP, UDP, MULTICAST, RTP/RTCP, RTSP, etc. • Supports web access.
Network Management	• Allows network camera configuration and management via Ethernet. • Supports device management via web or client-end.
Power	• External power adapter DC12V. • Supports s PoE supply **Warning!** **Do not connect these two power supplying sources to the device at the same time; it may result in device damage!**

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	Please note: system cannot support these two types of power supplying at the same time. As a recommendation, if you wish for your security system to be continue to run when there is a loss of power or unstable electrical supply coming from the mains, a UPS system should be installed.
Assistant Function	• Log function • Supports system resource information and running status real-time display. • Day/Night mode auto switch. • Supports picture parameter setup such as electronic shutter and gain setup. • Supports motion detection. • Backlight compensation: screen auto split allows backlight compensation to adjust the brightness. • Supports video watermark function to avoid vicious video modification. • Built in IR light to aid with night vision fuction. • The enclosure conforms to the IP66 protection testing. It can withstand a variety of weather conditions and outdoor environments.

1.3 Specifications

1.3.1 Performance

Please refer to the following sheet for network camera performance specification:

Model / Parameter		APOIP-MB2	APOIP-MB
System	Main Processor	TI Da Vinci high performance DSP	
	OS	Embedded LINUX	
	System Resources	Support real-time network, local record, and remote operation at the same time.	
	User Interface	Remote operation interface such as WEB, DSS, PSS	
	System Status	Bit stream statistics, log, and software version.	
Video Parameter	Image Sensor	1/2.8" CMOS	1/3 " CMOS
	Pixel	1920(H)*1080(V)	1280 (H)*960 (V)
	Gain Control	Fixed/Auto	
	White Balance	Manual/Auto	
	Exposure Mode	Manual/Auto PAL: It ranges from 1/4 to 1/10000 NTSC: It ranges from 1/3 to 1/10000	
	Video Compression Standard	H264/ H.264B/MJPEG	
	Video Frame Rate	PAL: Main stream(1920*1080@25fps), extra stream (704*576@25fps) NTSC: Main stream(1920*1080@30fps), extra stream(704*480@30fps)	PAL: Main stream(1280*960@15fps), extra stream (352*288@15fps) Main stream(1280*720@25fps), extra stream (704*576@25fps) NTSC: Main stream(1280*960@15fps), extra stream(352*240@15fps) Main stream(1280*720@30fps), extra stream(704*480@30fps)

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	Video Bit Rate	H.264: 56Kbps-8192Kbps. MJPEG is adjustable and bit rate is adjustable. Support customized setup.	H.264: 56Kbps-6144Kbps. MJPEG is adjustable and bit rate is adjustable. Support customized setup.
	Video Flip	Support mirror. Support flip function.	
	Snapshot	Max 1f/s snapshot. File extension name is JPEG.	
	Privacy Mask	Supports max 4 privacy mask zones	
	Video Setup	Support parameter setup such as bright, contrast.	
	Video Information	Channel title, time title, motion detect, camera masking.	
	Lens	3.6mm Fixed focus.	
	Lens Interface	M12. Lens is the default accessories	
Video	**Motion Detect**	396 (18*22) detection zones；sensitivity level ranges from 1 to 6 (The 6th level has the highest sensitivity) Activation event: video storage, image snapshot, log, email function and etc.	
Record and Backup	**Storage Management**	Support display local storage status	
Network	**Wire Network**	1- Channel wire Ethernet port, 10/100 Base-T Ethernet	
	Network Protocol	Standard HTTP, TCP/IP, ARP, IGMP, ICMP, RTSP, RTP,UDP, RTCP, SMTP, FTP, DHCP, DNS, DDNS, PPPOE, UPNP, NTP, Bonjour, SNMP.	
	Remote Operation	Monitor, system setup, file download, log information, maintenance , upgrade, etc.	
	Restore Default Setup	Reset button (on LED panel)	
	IR light	IR light 20-30M.	
General Parameter	**Power**	DC 12V power and PoE.	
	Power Consumption	6.5 W MAX	6W MAX
	Working Temperature	-10°C~+60°C	
	Working Humidify	10%~90%	
	Dimensions(mm)	70*66*160	62.9*64.3*146.8
	Weight	500g（Excluding box）	370g（Excluding box）
	Installation	Bracket installation	

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1.4 Factory Default Setup

Please refer to the following sheet for factory default setup information:

Setup		Item			Default Setup	
					APOIP-MB2	APOIP-MB
Camera	Conditions	Brightness			50	
		Contrast			50	
		Saturation			50	
		Sharpness			50	
		Anti-flicker			Outdoor	
		Exposure Mode			Auto	
		Gain Adjust			0-50	
		Scene Mode			Auto	
		Day/night Mode			Auto	
		BLC			Off	
		Mirror			Off	
		Flip			Off	
	Video	Video bit stream	Main Stream	Bit stream type	General	
				Encode mode	H.264	
				Resolution	1080P (1920*1080)	720P (1280*720)
				Frame Rate （FPS）	PAL:25 NTSC:30	
				Bit Rate Type	CBR	
				Recommended Bit	3584-8192 Kb/S	1536-6144 Kb/S
				Bit Rate	8192	4096
				Watermark	Enable	
				Watermark character	DigitalCCTV	
			Sub Stream	Enable	Enable	
				Bit stream type	General	
				Encode mode	H.264B	
				Resolution	PAL:CIF(352*288) NTSC:CIF(352*240)	PAL：CIF(352*288) NTSC：CIF(352*240)
				Frame Rate （FPS）	PAL:25 NTSC:30	PAL:25 NTSC:30
				Bit Rate Type	CBR	

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Setup	Item		Default Setup	
			APOIP-MB2	APOIP-MB
		Recommended Bit	192-1024Kb/S	
		Bit Rate	1024	
	Snapshot	Snapshot Type	General	
		Image Size	1080P（1920*1080）	720P（1280*720）
		Quality	Better	
		Interval	1s	
	Video Overlay	Privacy Mask	Disable	
		Channel Title	Enable	
		Time Title	Enable	
	Path	Snapshot Path	C:\PictureDownload	
		Record Path	C:\RecordDownload	
Network	TCP/IP	Host Name	IPC	
		Ethernet Card	Wire	
		Mode	Static	
		Mac Address	Device MAC address when it is shipped out of the factory	
		IP Version	IPV4	
		IP Address	192.168.1.108	
		Subnet Mask	255.255.255.0	
		Default Gateway	192.168.1.1	
		Preferred DNS	8.8.8.8	
		Alternate DNS	8.8.8.8	
		Enable ARP/Ping set device IP address service	Enable	
	Connection	Max Connection	10	
		TCP Port	37777	
		UDP Port	37778	
		HTTP Port	80	

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Setup	Item		Default Setup	
			APOIP-MB2	APOIP-MB
		RTSP Port	554	
		HTTPs enable	Disable	
		HTTPs Port	443	
	PPPoE	Enable	Disable	
		Username	none	
		Password	N/A	
	DDNS	Server Type	Disable，CN99 DDNS	
		Server IP	none	
		Server Port	80	
		Domain Name	none	
		User	none	
		Password	****	
		Update Period	10 minutes	
	IP Filter	Trusted sites	Disable	
	SMTP(Email)	SMTP Server	none	
		Port	25	
		Anonymity	Disable	
		User Name	anonymity	
		Password	****	
		Sender	none	
		Authentication (Encryption mode)	N/A	
		Title (Subject)	IPC Message	
		Attachment	N/A	
		Mail Receiver	0 seconds	
		Email Test	Disable，interval=60 seconds	
	UPnP	Enable UPnP	Disable	
	SNMP	SNMP Port	161	
		Read	public	

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Setup	Item			Default Setup	
				APOIP-MB2	APOIP-MB
			Community		
			Write Community	private	
			Trap Address	N/A	
			Trap Port	162	
	Bonjour		Enable	Enable	
			Server Name	SN. It depends on the actual device.	
	Multicast		Multicast Address	239.255.42.42	
			Port	36666	
	QoS		Real-time Monitor	0	
			Command	0	
Event	Video detect	Motion Detect	Enable	Disable	
			Anti-dither	5 seconds	
			Sensitivity	3	
			Record Channel	Enable	
			Record Delay	10 seconds	
			Send Email	Disable	
			Snapshot	Disable	
		Video Masking	Enable	Disable	
			Record Channel	Enable	
			Record Delay	10 seconds	
			Send Email	Disable	
			Snapshot	Disable	
		Disconnection	Enable	Disable	
			Record	Enable	
			Record Delay	10 seconds	
		IP Conflict	Enable	Disable	
			Record	Enable	
			Relay out Delay	10 seconds	
Storage	Storage	FTP	Enable FTP	Disable	
			Server IP	N/A	
			Port	21	
			Username	anonymity	

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Setup	Item			Default Setup	
				APOIP-MB2	APOIP-MB
			Password	N/A	
			Remote path	share	
		Record Control	Pack Duration	8 minutes	
			Pre-record	5 seconds	
			Disk Full	Overwrite	
			Record Mode	Auto	
			Record Stream	Main stream	
System	General	Local Host	Device No	Device manufacture SN	
			Language	English	
			Video Standard	PAL	
		Date and time	Date Format	Y-M-D	
			Time Format	24H	
			Time Zone	GMT+08:00	
			System Time	Sync	
			DST	Disable	
			DST Type	Week	
			Start Time	00:00:00 of the first Sunday of the month	
			End Time	00:00:00 of the second Monday of the month	
			NTP	Disable	
			NTP Server	clock.isc.org	
			Port	37	
			Update Period	10 minutes	
	Auto Maintenance		Auto Reboot	Enable Each 02:00 Tuesday	
			Auto Delete Old Files	Disable	

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2 Structure

2.1 APOIP-MB2: Multiple-function Combination Cable

You can refer to the following figure for multiple-function combination cable information (see Figure 2-1):

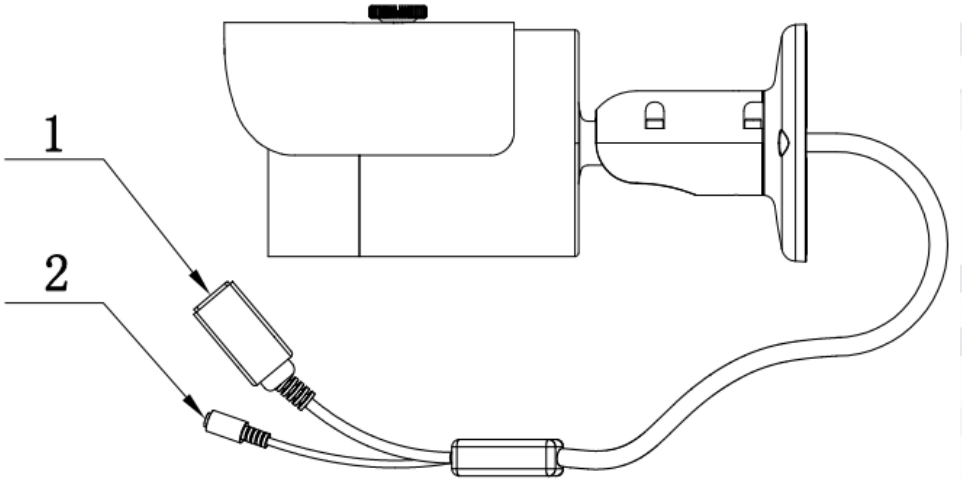

Figure 2-1

Please refer to the following sheet for detailed information:

SN	Port Name	Function	Connection	Note
1.	LAN	Network port	Ethernet port	Connect to standard Ethernet cable.
2	DC12V	Power input port		Power input port. Input DC 12V.

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2.2 APOIP-MB2: Framework and Dimension

Please refer to the following two figures for dimension information. The unit is mm. See Figure 2-2 and Figure 2-3.

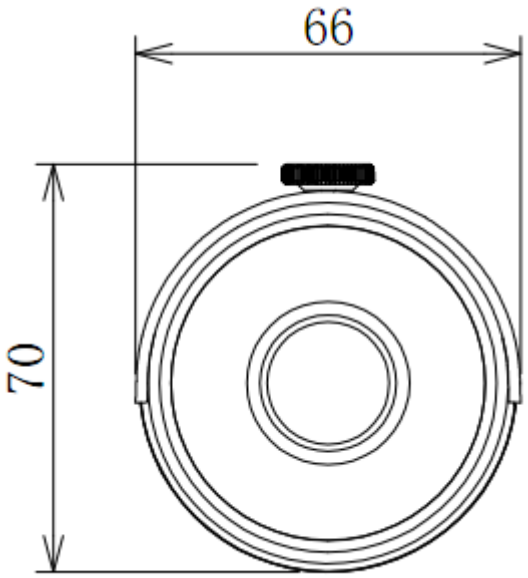

Figure 2-2

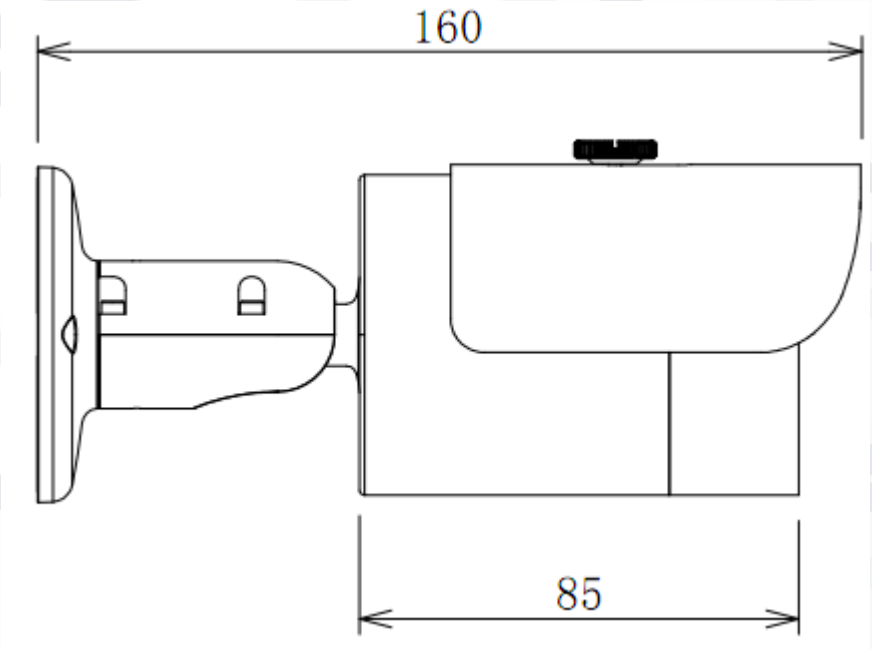

Figure 2-3

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2.3 APOIP-MB: Multiple-function Combination Cable

You can refer to the following figure for multiple-function combination cable information (see Figure 2-1).

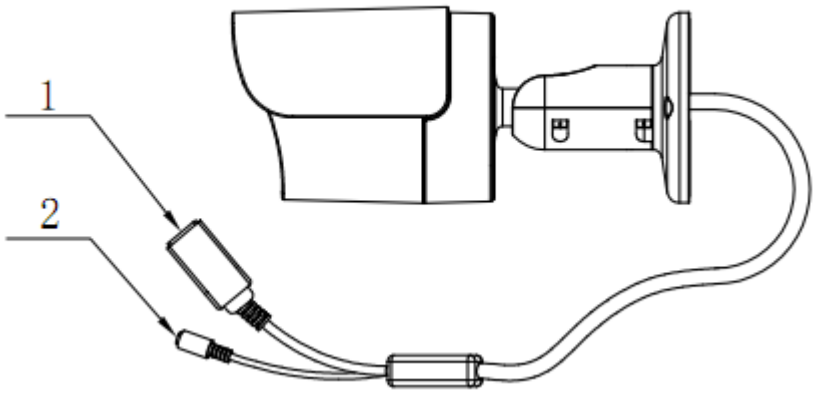

Figure 2-4

Please refer to the following sheet for detailed information:

Port Name	Function	Connection	Note
1.LAN	Network port	Ethernet port	Connect to standard Ethernet cable.
2.DC12V	Power input port		Power input port. Input DC 12V.

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2.4 APOIP-MB: Framework and Dimension

Please refer to the following two figures for dimension information. The unit is mm. See Figure 2-2 and Figure 2-3.

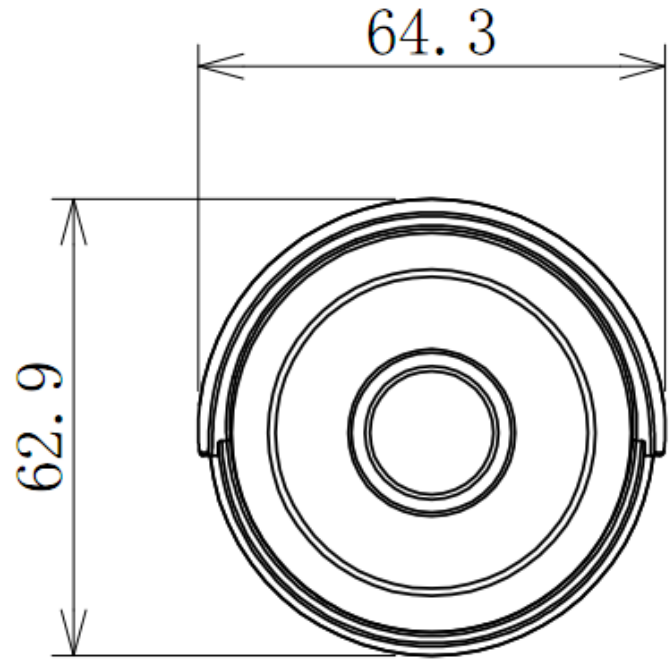

Figure 2-5

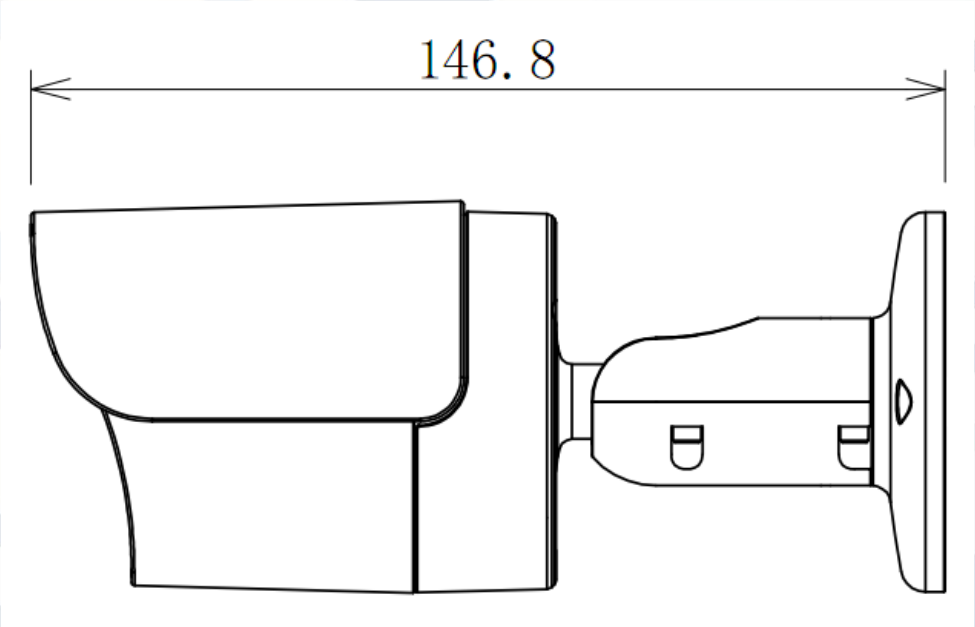

Figure 2-6

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3 Device Installation

Important: The installation wall shall min sustain 3X weight of the bracket and camera.

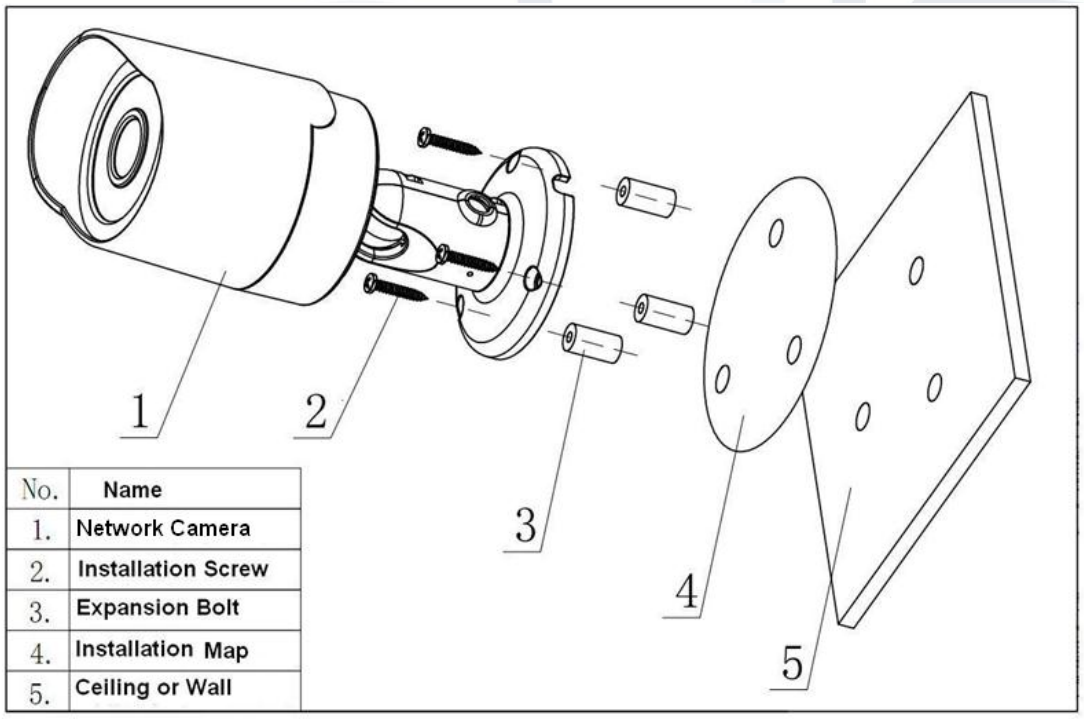
Please follow the steps listed below to install the device. Please refer to Figure 3-1 and Figure 3-2 for reference.

Step 1

Paste the installation map on to the surface of the wall or the ceiling.

Step 2

Dig the installation holes according to the installation map.



No.	Name
1.	Network Camera
2.	Installation Screw
3.	Expansion Bolt
4.	Installation Map
5.	Ceiling or Wall

Figure 3-1

Step 3:

Open the accessories bag and then take the expansion bolts out. Insert the expansion bolts into the installation holes.

Step 4:

Take the screws from the accessories bag and then use them to secure the device on to the installation surface of the wall or the ceiling. The sun shield of the device can move forward or backward. Please secure the set screw of the sun shield after you fixed the device to surface..

Step 5:

Connect the corresponding cables.

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Step 6:
Use the cross-head screwdriver to loosen the adjust screw.

Step 7:
Turn the device in different directions to make it suitable for the monitor position.

Step 8:
Use the cross-head screwdriver to fix the adjust screw firmly.

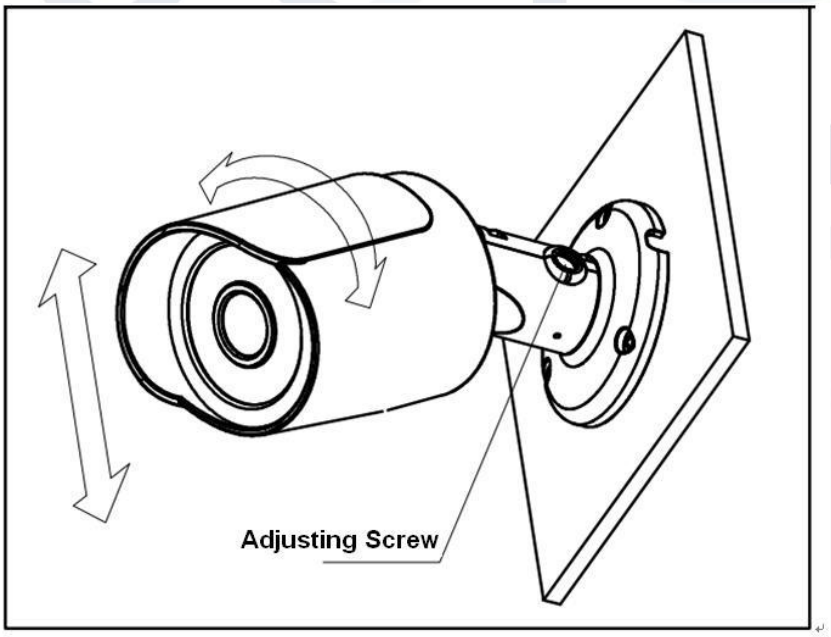

Figure 3-2

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4 Quick Configuration Tool

4.1 Overview

Quick configuration tool can search current IP address and modify IP address. At the same time, you can use it to upgrade the device.

Please note: the tool only applies to the IP addresses in the same segment.

4.2 Operation

Double click the ‘ConfigTools.exe’ icon and you will see an interface just like the one shown as in Figure 4-1.

In the device list interface, you can view the device’s IP address, port number, subnet mask, default gateway, MAC address, etc.

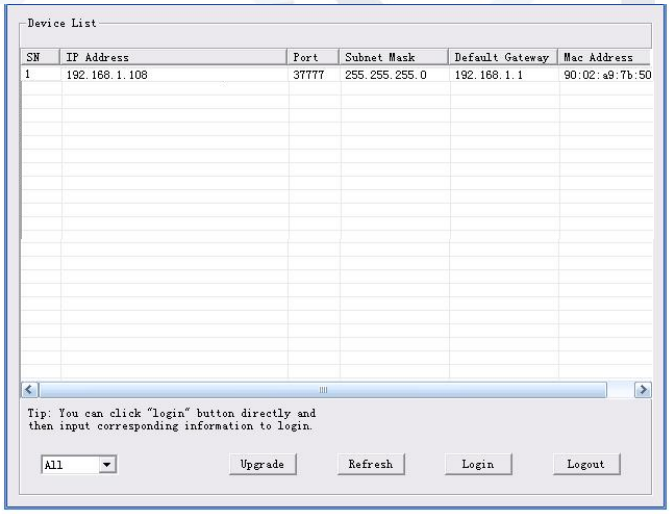

Figure 4-1 Search interface

Select one IP address and then right click mouse, you will see an interface like the one shown in Figure 4-2.

Note: You can set the IP address, subnet mask and gateway for the network camera & PC. The network camera IP address and PC IP address should be in the same network segment if there is no router. Network camera default IP address is 192.168.1.108. If there is a router, please set the corresponding gateway and subnet mask.

The factory default user name is **admin** and password is **admin**. For security reasons, please modify your password after you first login.

For detailed WEB operation, please refer to the Network Camera Web Operation Manual in the resource CD.

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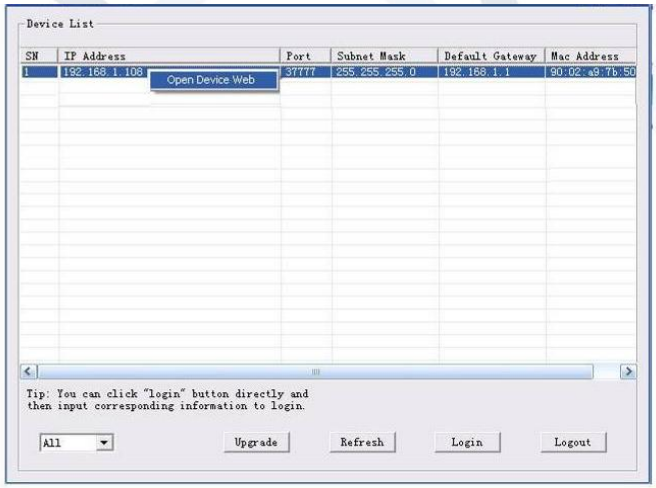

Figure 4-2 Search interface 2

Select the ‘Open Device Web’ item; you can go to the corresponding web login interface (see Figure 4-3).

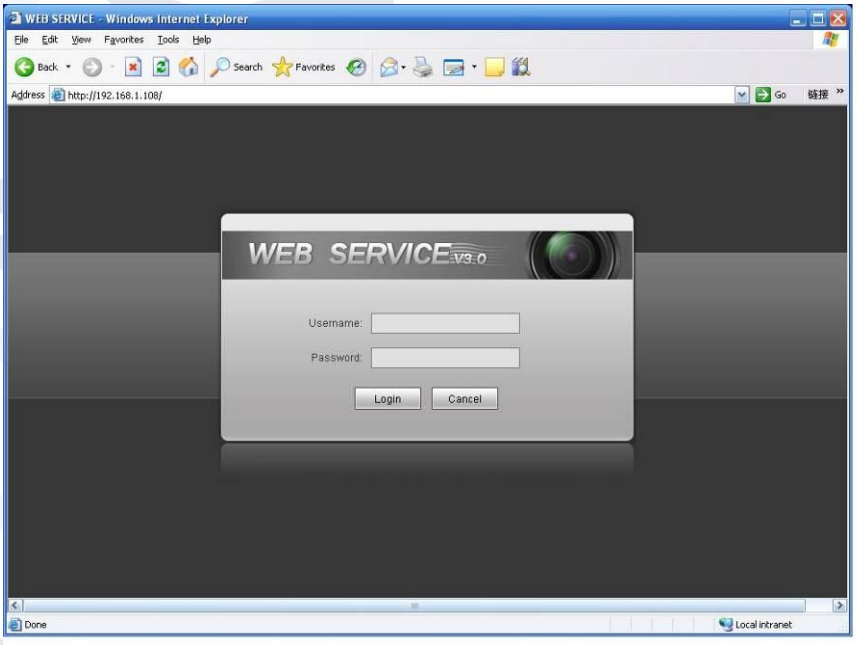

Figure 4-3 Web login

If you want to modify the device IP address without logging in to the device web interface, you can go to the configuration tool’s main interface to set.

In the configuration tool’s search interface (Figure 4-1), please select a device IP address and then double click it to open the login interface. Or you can select an IP address and then click the Login button to go to the login interface. See Figure 4-4.

In Figure 4-4, you can view device IP address, user name, password and port. Please modify the corresponding information to login.

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Please note the port information here shall be identical with the port value you set in TCP port in Web Network interface. Otherwise, you cannot login the device.

If you are using device background upgrade port 3800 to login, other setups are all invalid.

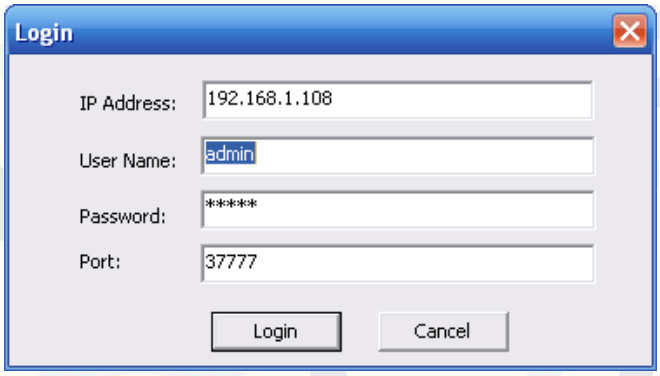

Figure 4-4 Login prompt

After you logged in, the configuration tool main interface is shown as below. See Figure 4-5.

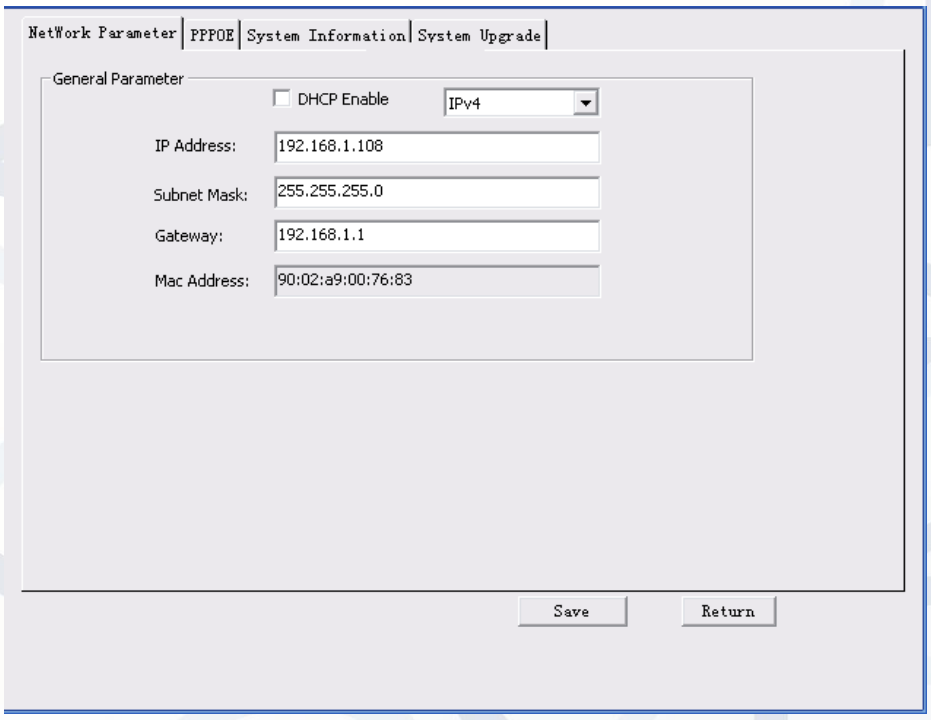

Figure 4-5 Main interface

For detailed information and operation instructions of the quick configuration tool, please refer to the *Quick Configuration Tool User's Manual* included in the resources CD.

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5 Web Operation

This IP camera product supports the Web access and management using a PC.

Web includes several modules: monitor channel preview, system configuration, alarm, etc.

5.1 Network Connection

Please follow the steps listed below for network connection:

- Make sure the network camera has connected to the network properly.
- Please set the IP address, subnet mask and gateway of the PC and the network camera respectively. Network camera default IP address is 192.168.1.108. Subnet mask is 255.255.255.0. Gateway is 192.168.1.1
- Use order ping ***.***.***.***(* network camera address) to check connection is OK or not.

5.2 Login and Logout

1. Open web browser and input network camera address in the address bar.

   For example, if your camera IP is 192.168.1.108, then please input **http:// 192.168.1.108** into the web browser's address bar. See Figure 5-1.

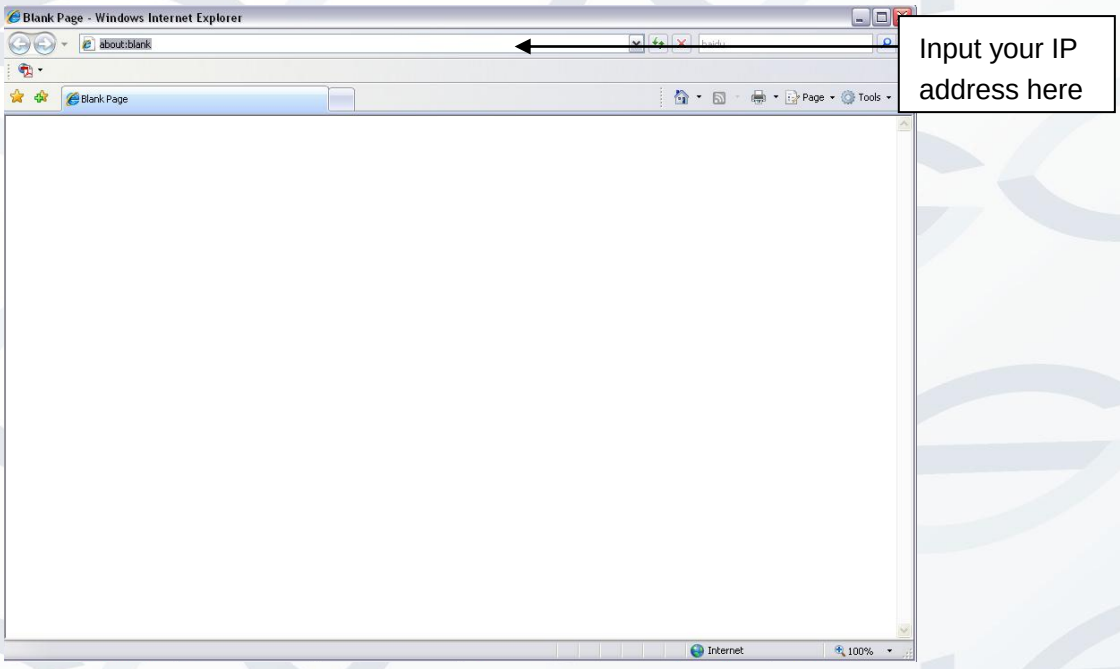

Figure 5-1 IP address

2. The login interface is shown as below. See Figure 5-2.
3. Please input your user name and password.
4. Default factory name is admin and password is admin.

Note: For security reasons, please modify your password after you first login.

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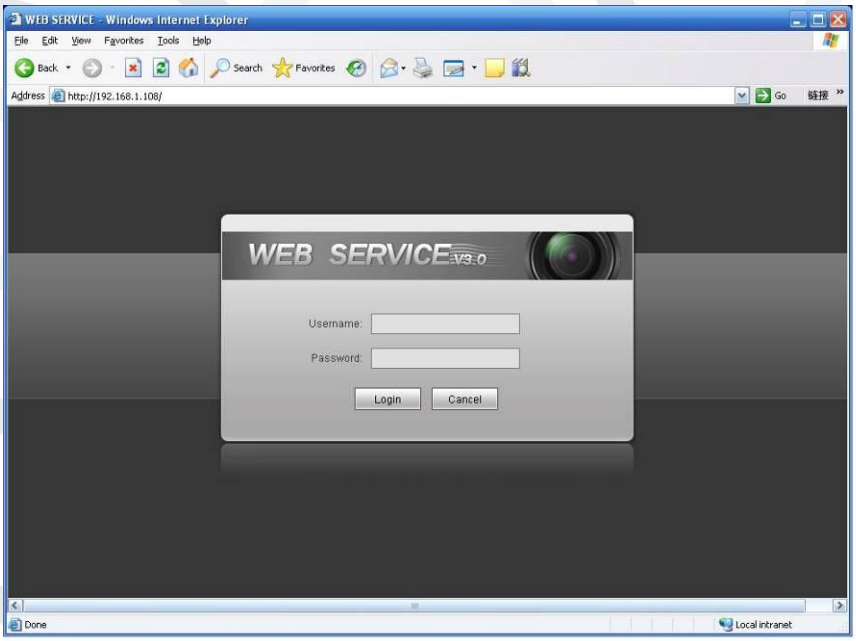

Figure 5-2 Web login

If it is your first time logging in, the system pops up warning information to ask you whether to install the control '**webrec.cab'** or not, after you have logged in for one minute. Please click OK button, the system can automatically install the control. When system is upgrading, it can overwrite the previous Web as well.

If you can't download the ActiveX file, please check whether you have installed the plug-in to disable the control download. Or you can lower the web browser's security level. See Figure 5-3.

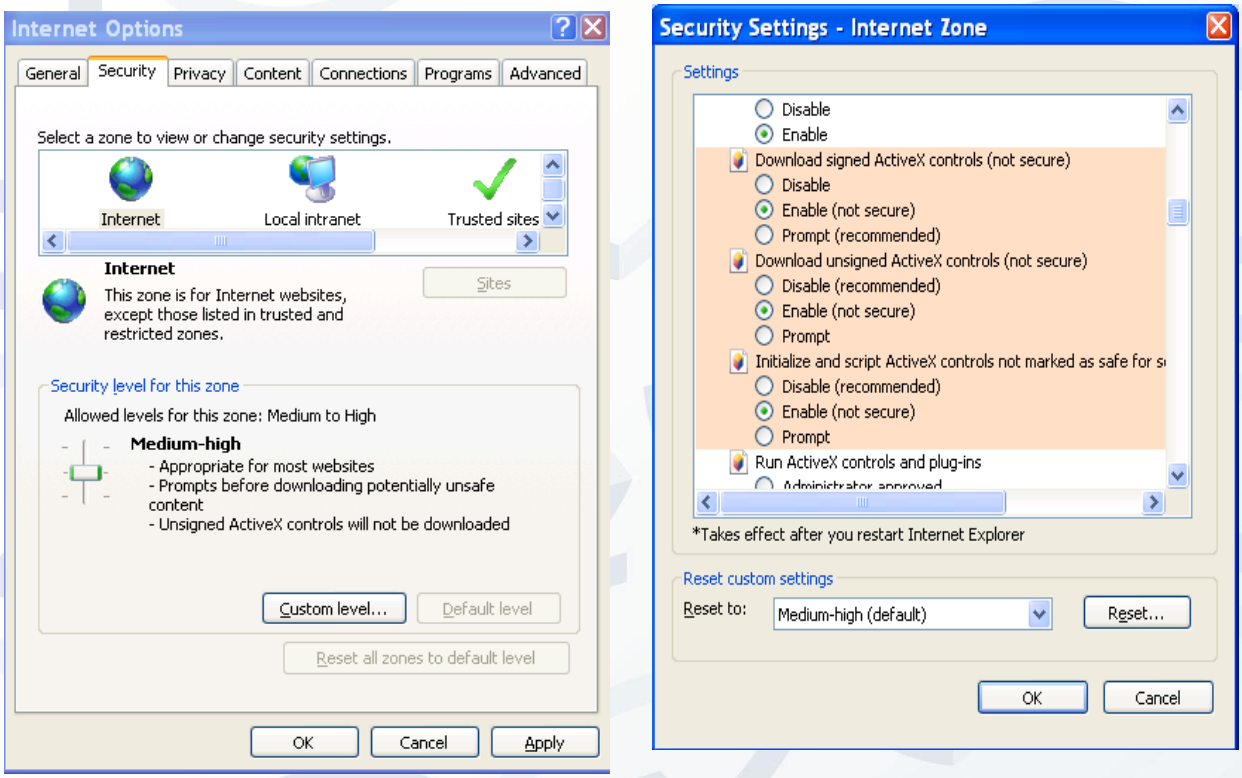

Figure 5-3 IE security level

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After you logged in, you can see the main window. See Figure 5-4:

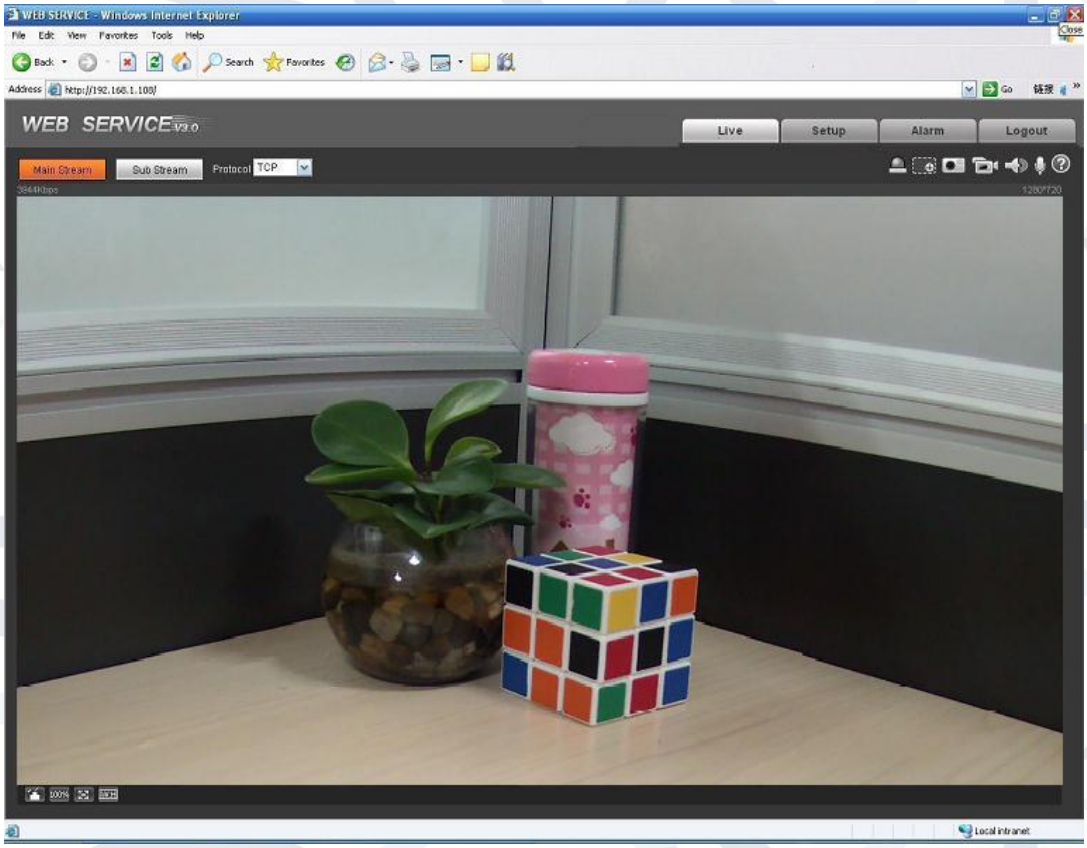

Figure 5-4 Web monitoring window

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6 FAQ

Bug	Solution / Reason
I cannot boot up the device or operate it properly.	Please click the RESET button for at least five seconds to restore factory default setup.
The water has leaked into the camera casing	The unauthorised front or rear cap removal many result in water leaking into the camera housing. The glass front cap has sustained a heavy push or strike. The waterproof plug of the rear cap becomes loosen.
IR video is poor.	Incorrect supply power has been used. The IR light cannot light up to its maximum level. The object is out of the IR distance range. IR-CUT does not turn to the night mode. The front end photosensitive chip cannot sense the IR light.
I cannot upgrade the device via network.	When network upgrade operation has failed, you can use port 3800 to continue upgrade.
I cannot login the client-end or the WEB.	The Active X control is blocked. The display card version needs to be DX8.1 or higher. Network connection error occurred. Invalid network setup. Invalid user name or password.
I cannot play the download file.	There is no player. There is no DX8.1 or higher. For the MEDIA PLAYER, there shall be Div X503Bundle.exe plugin if you play the .AVI file. For Windows XP user, you need to install the plugin DivX503Bundle.exe and ffdsho-2004 1012.exe.
To guarantee setup update	After you modified the important setup, please reboot the device via the software to make sure the setup has been updated to the storage medium.
Power adapter	The general power adapter can only work reliably within the temperature range of between 0℃ to 40 ℃. If the power supply is being operated outside this temperature range then it may result in an unstable power supply being provided to the camera. Please replace with an industrial-grade power adapter if you are using it in a harsh environment.

Note

- **This user's manual is for reference only. Slight differences may be found in user interface.**
- **All the designs and software here are subject to change without prior written notice.**

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